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ENUMERATION AND DESCRIPTION OF THE SEPTORIAS OF NORTH AMERICA.

BY GEORGE MARTIN, M. D.

This genus was described by Fries, S. M., Vol. 3, p. 480. Its character, as now accepted, is as follows: Perithecia globose or lenticular, thinly membranaceous, pierced with a small opening or fissured, usually developed beneath the epidermis in discolored spots on leaves, through which they generally burst or become erumpent; sporules cylindrical, linear or filiform, pluriseptate or guttulate, rarely entire, hyaline, often discharged in gelatinous threads or masses; basidia small or none.

Descriptions copied without being verified are enclosed in quotation marks.

1. SEPTORIA ACERINA, Pk. 25th Rep. N. Y. S. M., p. 87, Sylloge III, p. 478; Ellis, N. A. F., No. 625.

Spots red to pale brown, often subangular, 3—5 millim. broad; perithecia light brown, lenticular, collapsing, amphigenous, 195—240 μ in diameter; sporules hyaline, filiform, indistinctly septate or continuous, curved, 30—45x2 μ . On leaves of *Acer Pennsylvanicum* and *A. dasycarpum*.

2. SEPTORIA ACERICOLA (Thum.) Sacc. Sylloge, III, p. 507. "*Cryptosporium acericolum*, Thum.

"Perithecia black, subglobose, punctiform, covered, deposited in many minute lines or gregarious; sporules cylindrical, pallid, brown-gray, curved lunate, ends subcontracted and rounded, 27 x 3½—4 μ ." On dry pine leaves. South Carolina.

3. SEPTORIA ACICULOSA, E. & Everhart. Bull. Torrey Bot. Club II, p. 73; Sylloge III, p. 511.

Perithecia innate, superficial, mostly in clusters of two or three together, black, minute, hypophyllous, 120—135 μ in diameter; sporules hyaline, acicular, continuous, 12—20 x 1—2 μ ; accompanied with *Sphaerella Fragariae*, Tul. On leaves of *Fragaria*. Illinois.

4. SEPTORIA ALBANIENSIS, Thum. Bot. Gazette III, p. 122; Mycotheca Universalis, No. 1294; Sylloge III, p. 501.

"Spots on the upper surface of the leaves irregular, often confluent, variable in size, yellow, with a yellowish or brown margin, on the under surface yellow-gray, indeterminate, margin obscure; perithecia black, punctiform, sublenticular, erumpent, scattered, hypophyllous; sporules rod-shaped, or cylindrical, ends subrotund, curved 1-septate, hyaline, $30-32 \times 2\frac{1}{2} \mu$." On leaves of *Salix lucida*. New York.

5. SEPTORIA ALBO-NIGRA, B. & C. Sylloge III, 507.

"Spots white, margin brown; perithecia minute; sporules filiform, 55μ long." On living leaves. Alabama.

6. SEPTORIA ALBO-PUNCTATA, Cke. Grev. XII, p. 25; Sylloge III, p. 493; Rav. F. A., p. 510; Ellis, N. A. F., No. 622.

Spots circular, white, 1—2 millim. in diameter, border purple; perithecia dark brown, flattened, epiphyllous, 1—2 in a spot, $100-110 \mu$ in diameter; sporules hyaline, linear, nucleolate or faintly multiseptate, $60-80 \times 2-3 \mu$. On leaves of *Vaccinium arboreum*. South Carolina and Florida.

7. SEPTORIA ALISMATIS, Oudem. Sylloge III, p. 569.

Spots brown, subcircular, gray in the center; perithecia brown, minute, innate, barely visible, mostly hypophyllous; sporules hyaline, cylindrical, 1—3-nucleolate, $16-18 \times 3 \mu$. On leaves of *Alisma Plantago*. Iowa,

8. SEPTORIA AMPELINA, B. & C. Sylloge III, p. 479; Rav. F. A., No. 29; Ellis, N. A. F., No. 623.

Spots brown, angular, often confluent; perithecia dark brown, innate, slightly prominent, poorly defined, amphigenous, $800-1000 \mu$ in diameter; sporules hyaline, linear, curved, 3—4-septate, $40-75 \times 3 \mu$. On leaves of *Vitis vulpina*. Texas and South Carolina.

9. SEPTORIA ANGUSTATA, (Cke.) Sacc. Sylloge III, p. 569; *Darlucella angustata*, Cke.

"Perithecia — — —; sporules pallid olive, subfusiform, straight or curved, $30 \times 3 \mu$." On *Typha*. North America.

10. SEPTORIA AQUILEGIÆ, E. & K. n. sp.

Spots light brown, subangular, 2—4 millim. broad, border dark brown, often confluent; perithecia brown, lenticular, innate, slightly prominent, scattered, rather numerous; membranaceous, very delicate, amphigenous, $60-80 \mu$ in diameter; sporules hyaline, linear, slightly curved, faintly nucleolate, $25-30 \times 1 \mu$. On leaves of *Aquilegia vulgaris*. Ohio.

11. SEPTORIA ASTRAGALI, Rab. Sylloge III, p. 508; N. A. F., 1135.

Spots gray or pallid, irregular, partially limited by the veinlets, 1—2 millim. broad, often confluent; perithecia pale yellow to brown, flattened, innate, slightly prominent, very delicate, 2—4 in a spot, epiphyll-

lous, 150—250 μ in diameter; sporules hyaline, filiform, flexuous, 6—9-septate, 80—100 x 3 μ . On leaves of *Lathyrus ochroleucus*, Minnesota. *L. maritimus*, Massachusetts, a variable species.

12. SEPTORIA ASTRAGALICOLA, Pk. Torrey Bull. XII, p. 33.

"Spots indefinite or obsolete; perithecia black, hypophyllous, lenticular, 127—177 μ broad; sporules subcylindrical, straight or slightly curved, obtuse, 40—60 x 5—6 μ , sometimes plurinucleate, oozing out in whitish or faintly pinkish masses or tendrils. On leaves of *Astragalus* Arizona. Differs from *L. Astragali* in the situation of the perithecia and character of the spots."

13. SEPTORIA ATROPURPUREA, Pk. 33d N. Y. S. Report; Sylloge III, p. 549.

Spots subcircular, sometimes confluent, purple-brown on the upper surface, pallid in the centre, pale purple on the under surface, with the center yellow-brown; perithecia few, brown or pallid, globose, epiphyllous, 60 μ ; sporules hyaline, filiform, straight or curved, 50—100 x 2 μ . On living leaves of *Aster macrophyllus* and *A. cordifolia*. New York and Pennsylvania.

14. SEPTORIA BACILLIGERA, Winter. Jour. of Mycol. 1, p. 122.

"Spots small, subangular or irregular, at times confluent, white, dry, mostly one millim. in diameter, surrounded by a black line; perithecia scattered, minute, globose, black, membranaceous, stomatous, 80—90 μ in diameter; sporules numerous, hyaline, rod-shaped, often slightly enlarged at one end, mostly straight, 1—3-septate, at last constricted at the septa, 9—23 x 3—3½ μ ." On leaves of *Ambrosia trifida*. Missouri.

15. SEPTORIA BAPTISÆ, Cke. Sylloge III, p. 508; Rav. F. A., No. 30; Ellis, N. A. F., No. 624.

Spots suborbicular, purple; perithecia brown, innate, slightly prominent, mostly hypophyllous, 75—90 μ in diameter; sporules hyaline, linear, straight or curved, nucleolate, 45—60 x 3 μ . On leaves of *Baptisia perfoliata*. South Carolina.

16. SEPTORIA BESSEYI, Pk. Bull. Torrey Bot. Club VI, p. 77; Sylloge III, p. 495.

"Hypophyllous; perithecia more or less abundantly scattered over the whole lower surface of the leaf, slightly prominent, at first pale ferruginous or subochraceous, then black; sporules large, cylindrical, obtuse, moderately curved, usually containing several nucleoli, 40—55 x 4 μ , oozing out in whitish or pinkish-white masses." On living leaves of *Fraxinus*. Iowa.

17. SEPTORIA BETULICOLA, Pk. 34th N. Y. S. Rep., p. 44; Sylloge III, p. 506.

Spots red-brown, round or somewhat angular, pallid in the center, 1—2 millim. broad; perithecia black, subglobose, innate, slightly prominent, mostly hypophyllous, scattered, 75—80 μ ; sporules hyaline, filiform, curved, entire, 30—45 x 1 μ . On living leaves of *Betula*. New York.

18. SEPTORIA BIDENTIS, Sacc. Sylloge III, p. 547.

Spots pallid, subrotund, dry, one millim. in diameter, border brown, narrow, raised, distinct; perithecia brown, innate, becoming visible, scarcely prominent, 2—5 in a spot, epiphyllous, 65—75 μ in diameter; sporules hyaline, filiform, flexuous, indistinctly 1—3-septate, 23—26 x 1—1½ μ ("30—35 x 1—1½ μ ," Sacc.) On leaves of *Bidens bipinnata*. Missouri.

19. SEPTORIA BRUNELLÆ, E. & Hol. Jour. of Myc. I, p. 6; Ellis, N. A. F., No. 1606.

Spots dark rusty brown, irregular and variable in size, border raised, narrow; perithecia black, slightly prominent, thickly scattered, epiphyllous, 100—130 μ in diameter; sporules hyaline, with a brownish tint, linear, clavate, multiseptate, nearly straight, 40—75 x 1½—2 μ . On leaves of *Brunella vulgaris*. Iowa.

20. SEPTORIA CACALIÆ, E. & K. Am. Nat. XVII, p. 1164; Ellis, N. A. F., No. 1132 and 1610.

Spots rusty brown or gray in the center, border raised, brown, 2—5 millim. broad; perithecia black, lenticular, innate, slightly prominent, scattered, mostly epiphyllous, 90—100 μ in diameter; sporules hyaline, linear, nearly straight, faintly nucleolate, 30—45 x 1½—2 μ . On leaves of *Cacalia tuberosa* and *C. atriplicifolia*. Kansas to Florida.

21. SEPTORIA CAMPANULÆ (Lev.) Ellis, N. A. F., No. 1616; Sylloge III, p. 544. *Ascospora Campanulæ*, Lev.

Spots pallid, dry, subangular, partially limited by the veinlets, often confluent, 3—6 millim. broad; perithecia brown, lenticular, slightly prominent, clustered, amphigenous, very delicate, membranaceous, 60—90 μ in diameter; sporules hyaline, filiform, 2—3-septate, 21—24 x 1 μ . On leaves of *Campanula Americana*. Kansas.

22. SEPTORIA CANNABIS (Lasch.) Sacc. *Septoria cannabina*, West.; *S. cannabina*, Pk., 35th Rep., p. 137; *Ascochyta Cannabis*, Lasch.; Sylloge III, p. 557; Ellis, N. A. F., No. 1146.

Spots variable, dry, dull yellow; perithecia often epiphyllous, densely gregarious, innate, globose-depressed, 80—90 μ in diameter; sporules hyaline, linear, straight or curved, obscurely 1—3-septate, "45—55 x 2—2½ μ ." On leaves of *Cannabis sativa*. Kentucky.

23. SEPTORIA CELTI-GALLÆ, Gerard. Bull. Torrey Bot. Club VI, p. 78; Sylloge III, p. 499.

"Spots none; perithecia very small, black, immersed, scattered; sporules none." On leaves of *Celtis occidentalis*. New York.

24. SEPTORIA CEPHALANTHI, E. & K. Bull. Torrey Bot. Club II, p. 115; Ellis, N. A. F., No. 1611.

Spots red-brown, circular, 1½—3 millim. in diameter, border narrow, slightly raised; perithecia dark brown, subglobose, slightly prominent,

mostly clustered in the center of the spots, epiphyllous, 120—130 μ in diameter; sporules brownish, filiform, nearly straight, continuous, 12—20 \times 1 μ . On leaves of *Cephalanthus occidentalis*. Kansas.

25. SEPTORIA CERASTII, Rob. & Desm. Sylloge III, p. 518; N. A. F., No. 1139.

Spots pallid, large; perithecia brown, subglobose, erumpent, amphigenous, numerous, 135—140 μ in diameter; sporules hyaline, filiform, one end a little enlarged, entire, 35—40 \times 1 μ . On *Cerastium viscosum*, *C. vulgatum* and *C. oblongifolium*. Kentucky.

26. SEPTORIA CERASINA, Pk. 29th Rep. N. Y. S. Mus., p. 48; Sylloge III, p. 489; Ellis, N. A. F., No. 1609.

Spots red-brown, turning light brown or pallid in the center, often confluent, subangular, 1—3 millim. in diameter; perithecia obsolete; acervuli flattened, subepidermal, mostly hypophyllous, 300—400 μ in diameter; sporules subhyaline, cylindrical or subfusiform, ends subacute, one or more septate, curved, 40—60 \times 2½ μ , exuded in light amber-colored masses, or white at first. On leaves of *Prunus domestica* and *P. serotina* New York. This probably should be transferred to *Phleospora*.

27. SEPTORIA CEUTHOSPOROIDES (Cke. and Hark.) *Cryptosporium ceuthosporoides*, Cke. & Hamess. Grev IX, p. 127; Sylloge III, p. 490.

“Perithecia flat, brown, entire, thin, fissured above; sporules hyaline, fusiform, curved, 18—20 \times 3 μ .” On dead leaves of *Eucalyptus*. California.

(To be continued.)

NEW SPECIES OF FUNGI.

BY J. B. ELLIS AND B. M. EVERHART.

ASTERINA INQUINANS, E. & E.—On dead leaves of *Sabal Palmetto*, Louisiana, July, 1886. Rev. A. B. Langlois. Perithecia scutelliform, black, umbonate, of radiate-cellular structure, the marginal cells subelongated and slightly enlarged at their extremities; asci ovate or obovate, contracted at the base into a short stipe, 35—40 \times 18—22 μ ; sporidia irregularly crowded, ovate-elliptical or oblong-elliptical, yellowish and faintly uniseptate(?). The perithecia are thickly scattered over both surfaces of the leaf and look much like masses of exuded spores of some *Pestalozzia* or *Melanconium*.

PHYLLACHORA OXALINA, E. & E.—On living leaves of *Oxalis corniculata*, Falkland, Del., August, 1885. A. Commons, No. 117. Gregarious, tuberculiform, minute (¼ millim.); stylospores oblong-fusoid, hyaline, 2-nucleate, then 1-septate, 7—8 \times 2—3 μ . The part of the leaf occupied by the fungus turns brown and dries up.